Friends of the Reedy River and ReWa Anecdata Project:
Saving our Streambanks!
Frequently Asked Questions

➔ What is Anecdata?

Anecdata.org is a free online citizen science platform developed by the Community Lab at the MDI Biological Laboratory.

Anecdata is used by hundreds of individuals and organizations to gather and access citizen-science observations and provides a platform to easily collect, manage, and share their citizen science data.

➔ How does Anecdata work?

- Project managers create projects and design datasheets that participants fill out to share their observations.
- Participants join projects by creating a free account on Anecdata.org and use the Anecdata mobile app (on IOS and android) or the Anecdata.org website to share their observations.
- Project data is then available for anyone to view and download! Your personal information is not required or shared publicly.

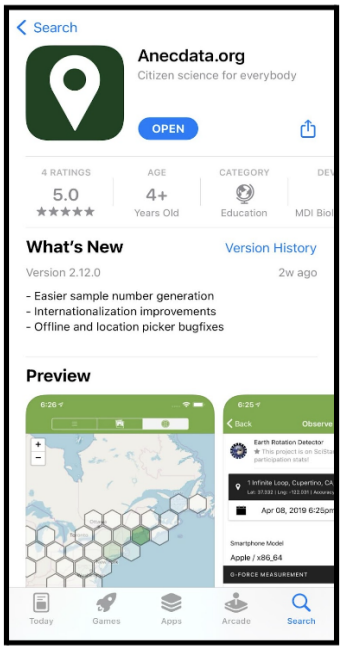
➔ What's Citizen Science?

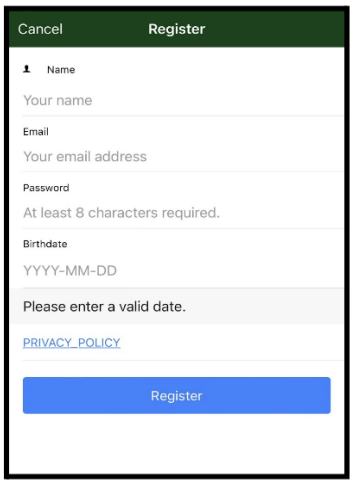
Citizen science is scientific research conducted, in whole or in part, by amateur or nonprofessional scientists. Often described as "public participation in scientific research," citizen science is based on community members working together with scientists to provide valuable information and preliminary data for research. You may already be familiar with the practice of citizen science through Friends of the Reedy River's involvement in the S.C. Adopt-a-Stream water quality monitoring program.

- Citizen Science is also commonly referred to as community science, crowd science, crowd-sourced science, civic science, or volunteer monitoring.

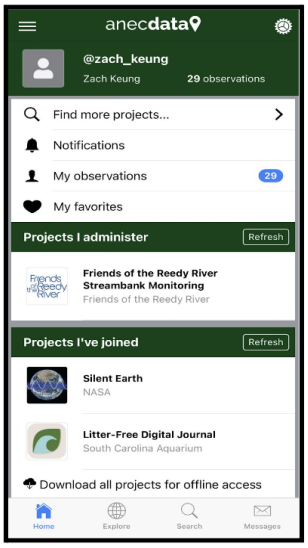
➔ How do I use the app?

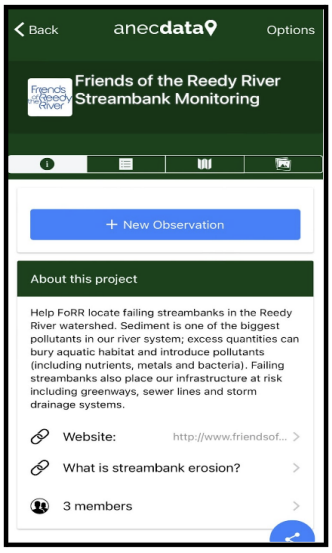
Step 1: Download the Anecdata App on your mobile phone (on IOS or android) and create a free account so you can join our research project, “Friends of the Reedy River Streambank Monitoring”. Your information will not be shared with anyone outside of the Friends of the Reedy River organization.





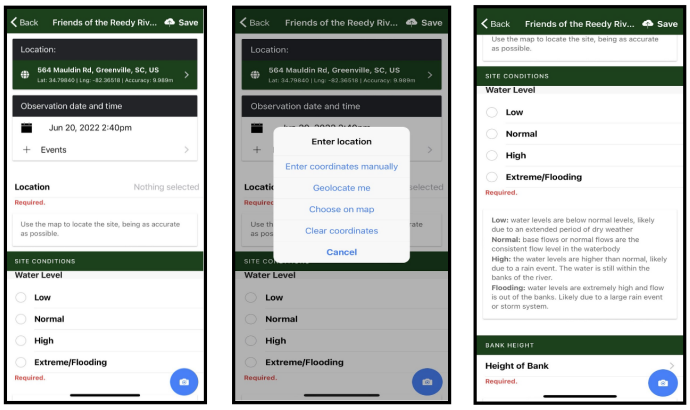
Step 2: Join the Friends of the Reedy River Project at this link or by searching for “Friends of the Reedy River” in the “Find more projects…” search bar above the notifications tab. The home page for our FoRR Anecdata Project is pictured below. You should see this page when you find the FoRR research project. The Friends of the Reedy River project will have our official logo as the profile image so look out for this logo when searching for and joining the project!



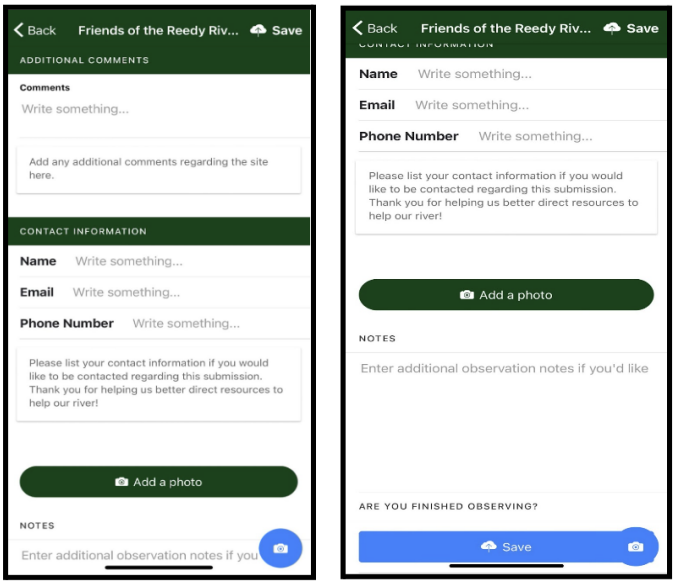


➔ Step 3: To make your first observation, tap the button labeled “+ New Observation” and begin collecting data by following the directions presented!

- Once you start a new observation, first tap the button labeled “Location - *nothing selected”.* This button is located between the “Events” and “Site Conditions” tabs on the top of the app page
- Then, once the pop-up box titled “Enter Location” appears on the screen, tap “Geolocate me” to use your phone’s GPS location to record the coordinates of where you are currently located.
- Once you record your location, continue answering the following questions about the site conditions and status of the stream bank.



Step 4: After answering all of the questions noted as *Required*, remember to add any comments and some photos of the streambank at the bottom of the app webpage. Then add your preferred contact info and hit submit at the bottom of the form to submit your collected data! The contact information is only used if we need to contact you regarding the stream bank data you submitted. Your personal information will not be shared with anyone outside of the FoRR research project.



➔ Determining the Water Level of a River or Stream

- Example photos of Low, Normal, High, and Flooding Water levels

Low Water Level

(Minemyer, C. 2020)

Normal Water Level

(Friends of the Reedy River)

High Water Level

(VisitGreenvilleSC, 2018)

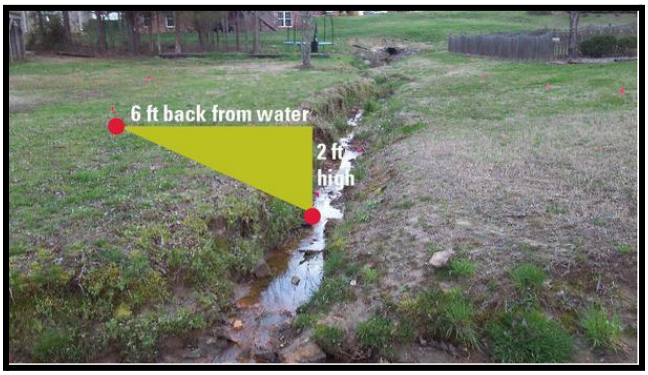
Extreme/ Flooding Water Level

(King, J., 2021)

➔ Determining the Height of Streambanks

- (0 - 5 ft., 5 - 10 ft., 10 - 20 ft., > 20ft.)
- **Observe bank height only from a safe position!** This means you are standing on sturdy ground, you have three-points of contact (that means having two feet on ground while holding a tree/ branch for extra stability), and you stay away from any dramatic steep slopes that are not meant for hiking along.
- Do not approach steep slopes after rain events and make sure to observe how sturdy or structurally-sound the soil is to walk on when walking along streambanks
- Be safe when observing bank height! And just get a good estimation of the height, it doesn't have to be exact.

0 - 5 ft.



(Hartup, W., et al., 2018)

5 - 10 ft.

(Gregg, P., 2008)

10 - 20 ft.

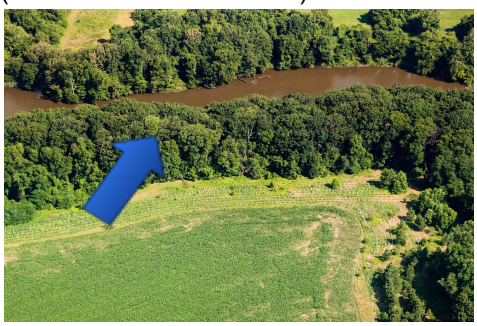
(Fish Creek Restoration LLC., 2019)

> 20ft.

(Garratt, M., 2007)

Glossary of Streambank Erosion Terms/ Definitions

Streambanks are dynamic and always changing. Bank instability and erosion can take many forms, but we've listed some of the most common below. These examples will help you describe the site conditions you may see when uploading an observation for our project.

Name of the Streambank Characteristic	Definition of the Streambank Characteristic	Picture of the Streambank Characteristic
Riparian Buffer Zone	The area adjacent to a stream, lake, wetland, or river that contains a combination of trees, shrubs, and/ or other perennial plants and is managed differently from the surrounding landscape, primarily to provide conservation benefits and help protect the health/ integrity of the river ecosystem. These buffers absorb pollutants before they enter the water and the plants/ vegetation anchor the streambank soil from extreme erosion. Additional info on Riparian Buffers and Streambank Restoration!	 (James River Association)  (Chesapeake Bay Program)
Bank Erosion	Bank erosion is the weathering away of the banks of a stream or river. Bank erosion can take many forms, but includes banks that may be sloughing (slowly falling off) into the waterway, or more defined areas of extreme erosion.	 (Anderson, P., 2007)

Bank Undercutting	When the river or stream flows along in such a way that erodes a small portion of the bank and another section of the bank is left intact above the undercut portion. Essentially, undercutting occurs when the bank rises vertically or overhangs the stream. While this can provide good habitat for fish and macroinvertebrates, it is an indicator of extreme erosional forces and a danger to adjacent infrastructure. Typically, the intact portion is held together because of trees, shrubs, and plants' roots. Riparian buffers are important!	 (Main, I. 2006)
Exposed Infrastructure	Any kind of infrastructure that looks to have been underground or covered in some way but, due to erosion, is now uncovered and exposed. This is an issue because these pieces of infrastructure are more vulnerable to malfunctions and damages when they are exposed to the elements and erosion forces. In some instances, the erosion may have uncovered, exposed, or threatened adjacent infrastructure. Look for exposed pipes, sinkholes or bank sloughing around permanent structures like manholes or greenways.	 (ReWa)

At-Risk Infrastructure	At-risk infrastructure is infrastructure that is near a failing or failed streambank and is in danger of being damaged by the erosion or environmental factors near the stream. Essentially, this piece of infrastructure is in danger of being harmed and needs repair soon. In some instances, the erosion may have uncovered, exposed, or threatened adjacent infrastructure. Look for exposed pipes, sinkholes or bank sloughing around permanent structures like manholes or greenways.	 In this picture, the extreme erosion of the streambank has put the driveway of this house at-risk of damage or failure. Continued erosion could result in permanent damages to the road/ property. (ReWa)
Extreme Erosion	Extreme erosion is like typical bank erosion but on a larger scale. Extreme erosion can shift based on the context and site specific-parameters but generally it means when a large-scale portion of a river or stream bank is undergoing a significant level of erosion and massive sediment losses. Steep banks, high flows and unstable soils can all contribute to extreme bank erosion and are features to be vigilant for when collecting data.	 (Palmer, J., et al., 2014)
Construction Site Sediment Discharge	As rainwater flows over construction sites, it can pick up pollutants and sediment and discharge those to local waterways. Look for soil-colored flow entering the waterway, or large deposits of sediment with a defined source. When construction sites are performing mass-grading and are moving lots of land and soil, sediment is going to get onto the road. The problem that happens is if the construction company isn't mitigating this sediment from leaving the construction site (in the wind, washed away after rain,	 (Maryland Dept. of Environmental Protection, 2008)

	etc.) all of the excess soil from the site will be washed away by stormwater and input an abnormal quantity of sediment into the river system.	
Evidence of Pollution or Illegal Dumping	Observe the water for conditions that do not look natural; strange colors in the water, debris, foam or suds, and oil slicks can all be indicators of pollution or illegal dumping. - Pictured to the right are some pollutants and trash that was removed from the Reedy River during a river clean up event led by Friends of the Reedy River! - Evidence of pollution/ dumping can be tires, plastic pollution, furniture, trash, styrofoam, etc.	 (Friends of the Reedy River)
Uprooted Trees in Bank	If a large tree falls, the root ball can pull out of the bank and destabilize the entire section of a streambank. This can also affect adjacent infrastructure and cause extreme erosion. Uprooted trees reduce the stability of the bank, thus exacerbating the risk of total streambank failure. Look for trees that appear to have been pulled out of the soil or have been knocked over and resulted in reduced structural stability of the streambank.	 (ReWa)

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